

II. REJECTIONS OF CLAIMS 1-4, 8-12, AND 17 UNDER 35 U.S.C. § 103

Claims 1-4, 8-12, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,893,024 ("Sanders") in view of U.S. Patent No. 6,181,365 ("Nakagawa"). Withdrawal of the rejection is respectfully requested for at least the following reasons.

The present invention defined in claims 1 and 10 relates to a cable modem including an upstream transmitter and a switch. More specifically, claims 1 and 10 recite that the switch is enabled and disabled by **a control signal from the upstream transmitter**. A specific embodiment of the invention is illustrated in Fig. 4A, in which switch component 410 receives a control signal from upstream transmitter 406 via control 412.

Contrary to the Examiner's assertion, both Sanders and Nakagawa fail to teach or suggest control of a switch by a control signal from an upstream transmitter as recited in claims 1 and 10. For example, Sanders shows in Fig. 2 that the switch 212 is controlled by the logic circuit 210. However, Sanders does not show any **control signal from an upstream transmitter** for enabling/disabling a switch because the switch 212 in Sanders does not receive a control signal from the modem 202. Rather, the switch 212 receives its control signal from the cable access unit 106, which houses the logic circuit 210 and which is separate from the modem 202. The claims require that the upstream transmitter, as well as the switch, be a component of a cable modem. In Sanders, neither the switch nor any other component in question is a part of a cable modem.

Nakagawa does not make up the deficiency of Sanders since Nakagawa does not show any control signal for controlling a switch. Certainly, Nakagawa does not suggest a control signal received from an upstream transmitter. Nakagawa is simply silent as to the source of a control signal to the switch 3. Therefore, claims 1 and 10 are believed to be patentable over combination of Sanders and Nakagawa. Claims 2-4, 8, 9, 11, 12, and 17 dependent, either directly or indirectly, from claim 1 or 10 are also believed to be allowable. Withdrawal of the rejection is respectfully requested.

III. CONCLUSION

Applicants believe that all pending claims are in condition for allowance, and respectfully requests a Notice of Allowance at an early date. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-843-6200.

Respectfully submitted,
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APPENDIX – CLEAN VERSION OF PENDING CLAIMS

1. A cable modem capable of reducing noise leakage on the upstream channel in a cable plant comprising:

an upstream transmitter having a control line on which the upstream transmitter can emit a control signal;

a switch component capable of being enabled and disabled by the control signal on the control line, such that the control signal from the upstream transmitter to the switch component enables the switch component thereby allowing a data signal to be transmitted on an upstream channel; and

an amplifier for amplifying the data signal from the upstream transmitter before being transmitted on the upstream channel.

2. A cable modem as recited in claim 1 wherein the switch component includes a plurality of switches.

3. A cable modem as recited in claim 2 wherein the plurality of switches includes a first switch associated with transmission of the data signal.

4. A cable modem as recited in claim 2 wherein the plurality of switches includes a second switch associated with termination of the cable plant.

5. A cable modem as recited in claim 4 wherein the second switch is a shunt switch attached to a resistor.

6. A cable modem as recited in claim 1 wherein the switch component is contained in the amplifier.

7. A cable modem as recited in claim 6 wherein the amplifier is a variable amplifier.

8. A cable modem as recited in claim 1 wherein the switch component is not contained in any other component in the cable modem.

9. A cable modem as recited in claim 1 wherein the switch component is coupled by a data bus to a diplex filter.

10. A method of reducing noise leakage from a cable modem onto a cable plant, the method comprising:

activating a switch component in the cable modem when the upstream transmitter is ready to transmit a data signal upstream;

transmitting a data signal on the upstream channel; and

deactivating the switch component after the data signal has been transmitted on the upstream channel thereby reducing noise leakage when the cable modem is not actively transmitting and terminating noise from the cable plant when the cable modem is not powered.

11. A method as recited in claim 10 wherein activating a switch component in the cable modem further includes asserting a control line.

12. A method as recited in claim 10 further comprising:

closing a series switch within the switch component thereby allowing a data signal to reach a diplex filter in the cable modem when the cable modem is ready to transmit a data signal on the upstream channel.

13. A method as recited in claim 12 further comprising:

opening a shunt switch within the switch component when the series switch is closed.

14. A method as recited in claim 10 further comprising:

closing a shunt switch within the switch component thereby terminating the cable plant when the cable modem is not transmitting a data signal on the upstream channel.

15. A method as recited in claim 14 further comprising:

opening a series switch within the switch component thereby disconnecting a data signal path to a diplex filter when the shunt switch is closed.

16. A method as recited in claim 10 further comprising:

determining whether an amplifier in the cable modem can enable at a sufficient speed to not cause data packet collisions; and

activating only the switch component if the amplifier cannot enable at a sufficient speed.

17. A method as recited in claim 10 further comprising activating a variable amplifier to prepare for transmitting a data signal.